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SILCOTEK CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
	)	Case No. 1:23-cv-281
v.	)	
	)	
WATERS CORPORATION,	)	
	)	
Defendant.	)	
	)	

This case is before the Court for claim construction pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). A Markman hearing was held on June 12, 2024. (ECF No. 89.) The Parties were subsequently invited to submit new proposed constructions for one of the disputed terms. (ECF No. 88.) The Parties submitted supplemental constructions on June 20, 2024. (ECF Nos. 90-91.)

This is a civil action for patent infringement by SilcoTek Corporation (“SilcoTek” or “Plaintiff”) against Waters Corporation (“Waters” or “Defendant”) for infringement of at least one claim of U.S. Patent No. 10,881,986, entitled, “Liquid Chromatography Technique” (“the ’986 patent”) and at least one claim of U.S Patent No. 11,131,020, entitled, “Liquid Chromatography System and Component” (“the ’020 Patent”) (collectively, the “Asserted Patents”). (ECF No. 1 ¶ 1.)

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thermal decomposition of one or more silicon-containing precursor gases in sequence. (ECF No. 55-1 at PageID 10.) The '986 Patent discloses a liquid chromatography technique where the subject fluid is transported through a coated metallic fluid contacting element. (Id. at PageID 19.) The fluid in the '986 Patent includes (1) a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone ("PEEK"), (2) a chelating agent incompatible with one or both of titanium or PEEK, and (3) an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate ("ATP"), and deoxynucleotide monophosphate. (Id.)

#### **A. Factual Background**

Plaintiff is a Pennsylvania corporation that manufactures coatings for and applies coatings to various materials and devices for customers worldwide. (ECF No. 1 ¶ 2.) Defendant is a Delaware corporation that designs, manufactures, sells, and services high performance liquid chromatography ("HPLC") technology systems and support products. (Id. ¶ 3.) HPLC is an analytical chemistry technique used to separate, identify, and quantify each component in a mixture. (Id. ¶ 14.) Plaintiff's coating services prevent interaction of the test analyte and other fluids with the flow path surface in HPLC components. (Id. ¶ 15.) Its inert coating services, like the Dursan® coating service, prevent adsorption and reactivity and improve surface corrosion resistance. (Id.)

#### **B. Procedural Background**

Plaintiff filed its Complaint on March 16, 2023. (ECF No. 1.) The Complaint alleges that the manufacturing, use, and sale of Defendant's "Premier" and "MaxPeak Premier" columns and equipment with MaxPeak™ High Performance Surfaces technology infringes the '020 Patent. (Id. ¶¶ 22, 25.) It also alleges that the use of the Premier line of columns in chromatography systems

to demonstrate, test, or perform certain chromatography techniques, and the inducement of Defendant's customers to so use them, directly and indirectly infringes the '986 Patent. (Id. ¶ 26.) The Complaint further alleges that Defendant knew of both Asserted Patents, and that its infringement thereof is willful. (Id. ¶¶ 27-31.)

On February 14, 2014, the Parties filed their claim construction opening briefs. (ECF Nos. 54-56.) On March 15, 2024, they filed answering briefs. (ECF Nos. 60-62.)<sup>1</sup>

The Court held a claim construction hearing on June 12, 2024. (ECF No. 89.) On June 13, 2024, the Court issued an order permitting the Parties to submit new proposed constructions for the claim term "incompatible with one or both of titanium and polyether ether ketone[.]" (ECF No. 88.) The Parties submitted new proposed constructions for this term on June 20, 2024. (ECF Nos. 90-91.)

## **II. LEGAL STANDARD**

### **A. Claim Construction**

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quotation omitted). Courts, as a matter of law, must construe the claims of a patent to ascertain precisely what is patented. See id.; see also Markman v. Westview Instruments, Inc., 517 U.S. 370, 387 (1996).

In claim construction, the words in the claims are "generally given their ordinary and customary meaning," that is, "the meaning that the term would have to a person of ordinary skill in the art [POSITA] in question at the time of the invention." Phillips, 415 F.3d at 1312–13 (quotations omitted). "There are only two exceptions to this general rule: 1) when a patentee

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<sup>1</sup> On March 22, 2024, Waters filed an amended answering brief and declarations. (ECF Nos. 63-66.) Waters did not seek leave to untimely file these documents, and the Court will not consider them.

sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” Thorner v. Sony Comput. Ent. America LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citation omitted). The ordinary and customary meaning “may be readily apparent even to lay judges,” and where that is the case, claim construction involves “little more than the application of the widely accepted meaning of commonly understood words.” Phillips, 415 F.3d at 1314 (citation omitted).

When the ordinary and customary meaning is not immediately apparent, courts look to other sources of evidence: “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” Id. (citation omitted).

In Phillips, the United States Court of Appeals for the Federal Circuit (“the Federal Circuit”) provided guidance on the relative weight given to evidence from these various sources. Id. First, “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” particularly the “context in which a term is used in the asserted claim.” Id. at 1314. But because claims are also part of a “fully integrated written instrument,” they must “be read in view of the specification, of which they are a part.” Id. Indeed, “[a] patent’s specification provides necessary context for understanding the claims and is always highly relevant to the claim construction analysis.” Abbott Labs. v. Sandoz, Inc., 566 F.3d 1282, 1288 (Fed. Cir. 2009) (quoting Phillips, 415 F.3d at 1315). The specification may give insight into “practically incontrovertible directions about claim meaning,” as when inventors “act as their own lexicographers and give a specialized definition of claim terms,” or “intentionally disclaim, or disavow, subject matter that would otherwise fall within the scope of the claim.” Id. But the Court must take care neither “to import limitations into the claims from the specification,” nor to allow

the claims to “enlarge what is patented beyond what the inventor has described as the invention.” Id. (internal citations and quotation marks omitted). In addition, “a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.” Resonate Inc. v. Alteon Websys., Inc., 338 F.3d 1360, 1364-65 (Fed. Cir. 2003).

The prosecution history of the patent is also “intrinsic evidence” that courts consider when determining the meaning of disputed terms. Phillips, 415 F.3d at 1317. A patentee may disavow or disclaim certain subject matter through their prosecution history, via a “clear and unmistakable statement.” Abbott Labs., 566 F.3d at 1289.

In addition to intrinsic evidence in the claims, specification, and prosecution history, courts may also consider extrinsic evidence. Extrinsic evidence includes “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” Phillips, 415 F.3d at 1317. Such evidence, however, is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” Id. (quoting C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting Vanderlande Indus. Nederland BV v. Int’l Trade Comm’n, 366 F.3d 1311, 1318 (Fed. Cir. 2004))).

The Court’s Markman analysis is not required to “repeat or restate every claim term in order to comply with the ruling that claim construction is for the court.” U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, “[c]laim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.” Id.

### III. CLAIM CONSTRUCTION<sup>2</sup>

#### A. Agreed-Upon Terms/Terms Preserved for Appeal

Patent, Claims	Term	Agreed Construction
'020 Claims 1-5, 10, 11, and 19	a liquid chromatography system	Solely as preamble, not as claim limitation
'986 Claims 1, 2, 9, 11, and 12	Liquid chromatography technique	Solely as preamble, not as claim limitation

#### B. Overview of Disputed Claim Terms

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction
1	amorphous coating having a base layer and a surface layer	plain and ordinary meaning  proper enablement – a POSITA would know how to make and use the described coating	lacks enablement support under 35 U.S.C. § 112(a)
2	carboxysilane	a material that comprises silicon, oxygen, carbon and hydrogen and having silicon-oxygen bonds and silicon-carbon bonds.	lacks enablement support under 35 U.S.C. § 112(a)  alternatively, a chemical with the following structure: $  \begin{array}{c}  \text{R} \quad \text{O} \\    \quad    \\  \text{R} - \text{Si} - \text{C} - \text{OH} \\    \\  \text{R}  \end{array}  $
3	unable to be concurrently coated through	plain and ordinary meaning	cannot be simultaneously coated through line-of-sight techniques

<sup>2</sup> Because “validity analysis is not a regular component of claim construction,” the Court finds Defendant’s enablement arguments unavailing, and will not address them. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2005); see also *Haddad v. United States*, 164 Fed. Cl. 28, 40 (2023) (stating that claim construction is “separate and distinct” from “inquiries . . . such as lack of enablement”).

	line-of-sight techniques		alternatively, lacks enablement support under 35 U.S.C. § 112(a)
4	The liquid chromatography component of claim 1 (of the '020 Patent)	plain and ordinary meaning	invalid under 35 U.S.C. §112(d) as a dependent claim broader in scope than independent claim 1
5	coated metallic fluid-contacting element	plain and ordinary meaning	an element of a liquid chromatography system having a coating and a metallic substrate on the coating, where the metallic substrate contacts fluid passing through the element
6	fluid	plain and ordinary meaning	a substance used in a liquid chromatography technique having at least 3 distinct components: (1) a protein-containing analyte, (2) a chelating agent, and (3) an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate, and deoxynucleotide monophosphate
7	protein	plain and ordinary meaning	any of a class of high-molecular-weight polymer compounds composed of a variety of $\alpha$ -amino acids joined by peptide linkages
8	analyte	plain and ordinary meaning	chemical substance that is being analyzed, detected, or measured
9	chelating agent	plain and ordinary meaning	a chemical substance that binds to metal ions in the fluid flow-path to improve the analysis, detection, or measurement of metal-sensitive analytes
10	incompatible with one or both of titanium and	Under certain conditions permits operation producing usable, but less than ideal,	a protein-containing analyte/chelating agent where the negative consequences of

	polyether ether ketone	performance with one or both of titanium and poly ether ketone	using the protein-containing analyte/chelating agent with either titanium or polyether ether ketone are intolerable to a user
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**1. amorphous coating having a base layer and a surface layer**

<b>Claim Term No.</b>	<b>Term</b>	<b>SilcoTek's Proposed Construction</b>	<b>Waters' Proposed Construction</b>	<b>Final Construction</b>
1	amorphous coating having a base layer and a surface layer	plain and ordinary meaning  proper enablement – a POSITA would know how to make and use the described coating	lacks enablement support under 35 U.S.C. § 112(a)	plain and ordinary meaning

The Parties dispute the meaning of the term “amorphous coating having a base layer and a surface layer” as it appears in Claim 1 of the ’020 Patent. (ECF No. 56-1 at PageID 2326.) Because Defendant’s only proposed construction involves a lack of enablement, the Court only looks to see if the plain and ordinary meaning of the term is supported by the intrinsic record. See supra note 2; Lexion Med., LLC v. Northgate Techs., Inc., 641 F.3d 1352, 1356 (Fed. Cir. 2011).

Here, a POSITA would understand what the claim term was referring to, and the specification does not “define or limit the term, or use it in any way other than in accord with its plain and ordinary meaning.” (ECF No. 56 at PageID 2299.) Thus, the plain and ordinary meaning applies. Abbott Lab'ys v. Syntro Biorisch., Inc., 334 F.3d 1343, 1355 (Fed. Cir. 2003) (finding that where the specification did not define the claim term, ordinary meaning applied).



## 2. carboxysilane

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction	Final Construction
2	carboxysilane	a material that comprises silicon, oxygen, carbon and hydrogen and having silicon-oxygen bonds and silicon-carbon bonds.	lacks enablement support under 35 U.S.C. § 112(a)  alternatively, a chemical with the following structure: $  \begin{array}{c}  \text{R} \quad \text{O} \\    \quad    \\  \text{R} - \text{Si} - \text{C} - \text{OH} \\    \\  \text{R}  \end{array}  $	a chemical with the following structure: $  \begin{array}{c}  \text{R} \quad \text{O} \\    \quad    \\  \text{R} - \text{Si} - \text{C} - \text{OH} \\    \\  \text{R}  \end{array}  $

The Parties dispute the meaning of the term “carboxysilane” as it appears in claim 1 of the ’020 Patent.

### a. Plain and Ordinary Meaning

The Court begins its analysis by trying to give “words of a claim their ordinary and customary meaning.” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005) (en banc). However, “judges are free to consult dictionaries and technical treatises ‘at any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.’” Phillips v. AWH Corp., 415 F.3d 1303, 1322–23 (Fed. Cir. 2005) (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1584 (Fed. Cir. 1996)).

Defendant argues that its construction reflects the plain and ordinary meaning because it uses the nomenclature standardized by the International Union of Pure and Applied Chemistry

(“IUPAC”). (ECF No. 54 at PageID 431 (citing ECF No. 55-1 at PageID 568.))<sup>3</sup> Defendant notes that courts regularly rely on IUPAC’s nomenclature in claim construction. (ECF No. 54 at PageID 431 (citing, e.g., Dow Agrosciences LLC v. Crompton Corp., 381 F. Supp. 2d 826, 837 (S.D. Ind. 2005), aff’d, 182 F. App’x 978 (Fed. Cir. 2006)).) Indeed, as a technical dictionary, IUPAC can be used to provide the ordinary meaning of carboxysilane. See Optical Disc Corp. v. Del Mar Avionics, 208 F.3d 1324, 1335 (Fed. Cir. 2000) (“For such ordinary meaning, we turn to the dictionary definition of the term.”).

Under IUPAC’s nomenclature, the prefix “carboxy” refers to a carboxylic acid, denoted as -COOH, while “silane” refers to a silicon atom bonded to hydrogen or other groups of atoms. (ECF No. 55-1 at PageID 571.) Thus, a POSITA would have understood carboxysilane to be a chemical compound containing a “carboxy” functional group and a “silane functional group.” (See ECF No. 60 at PageID 2650.)

b. *Intrinsic Evidence*

However, “[t]he customary meaning of a claim term is not determined in a vacuum and should be harmonized, to the extent possible, with the intrinsic record, as understood within the technological field of the invention.” Lexion Med., 641 F.3d at 1356. The intrinsic record consists of “the patent itself, including the claims, the specification and, . . . the prosecution history.” Optical Disc, 208 F.3d at 1334. While the intrinsic record “may shed contextual light on the plain and ordinary meaning, . . . [it] cannot be used to narrow a claim term to deviate from the plain and ordinary meaning unless the inventor acted as his own lexicographer or intentionally disclaimed or disavowed claim scope.” Aventis Pharms. Inc. v. Amino Chems. Ltd., 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citations omitted).

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<sup>3</sup> Given the duplicative and arguably extrinsic nature of Defendant’s “PubChem” database from the National Institute of Health (ECF No. 54 at PageID 434), the Court will consider only the IUPAC standard.

Plaintiff argues that a POSITA is assumed to have read the claim term in the context of the entire patent, including the specification. (ECF No. 62 at PageID 2717.) However, Plaintiff's expert, Dr. Kevin A. Schug, admits that carboxysilane is "referenced but not defined in the specification of the '020 Patent." (ECF No. 56-3 at PageID 2355.) Plaintiff also argues that Defendant's proposed construction is incompatible with the intrinsic record because it "does not appear in the list of precursor gases or liquids used to produce the coating disclosed in the '020 Patent in column 5, lines 14-39[, while] 'carboxysilane' does appear in the list in the '020 Patent in column 5, lines 14-39." (ECF No. 56 at PageID 2298.)

However, whether the specification's list of precursor gases and liquids includes Defendant's proposed construction of carboxysilane is irrelevant. The "liquid chromatography component" in Claim 1 includes "an amorphous coating on the substrate, the amorphous coating having a base layer and a surface layer, the base layer including carboxysilane." (ECF No. 56-1 at PageID 2326.) The final base layer must include carboxysilane, but the precursor gas used to make this layer does not. The '020 Patent's list of precursor gases does not redefine "carboxysilane" unless subjecting one of these gases to thermal decomposition yields a coating that does not meet the IUPAC definition of carboxysilane.

Plaintiff also argues that the prosecution history of the '020 Patent supports its construction. Plaintiff cites U.S. Patent Publication No. 2014/0357091 to Mattzela ("Mattzela"), which the patent examiner identified as the closest reference (ECF No. 56 at PageID 2295 (citing ECF No. 56-4 at PageID 2513)), as well as Mattzela's parent patent, U.S. Patent No. 9,777,368 ("the '368 Patent"). (ECF 56-3 at PageID 2356.)

Mattzela describes a coating process that deposits a layer on a substrate. (ECF No. 56-5 at PageID 2525.) That layer is oxidized to form a functionalized layer, which undergoes post-

functionalization oxidation to form a functionalized-then oxidized layer. (Id. at PageID 2527.)

When the original layer is amorphous carbosilane, the layer is or includes amorphous carboxysilane after oxidation or post-functionalization oxidation. (Id.) Plaintiff's expert focuses on Figure 4 of Mattzela, pointing to "the oxidized layer 107 formed by the oxidation (step 208) or the post-functionalization oxidation is or includes amorphous carboxysilane." (ECF No. 56-3 at PageID 2355.)

While the patent examiner's Notice of Allowance cited Mattzela and its reference to "an amorphous carboxysilane base layer," it did not indicate that its construction of the term applied to the '020 Patent. (ECF No. 56-4 at PageID 2513.) The Notice of Allowance only stated in general terms that "Mattzela does not teach or fairly suggest the presently claimed liquid chromatography system." (ECF No. 56-4 at PageID 2513). In this way, there is no "instance[] in which [Plaintiff] expressly or implicitly defined this term or qualified it to distinguish [Mattzela]." AIA Eng'g Ltd. v. Magotteaux Int'l S/A, 657 F.3d 1264, 1277 (Fed. Cir. 2011). In any case, a patent examiner cannot disclaim part of the term's scope on behalf of the applicant. See Thorner, 669 F.3d at 1366–67 ("We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that. To constitute disclaimer, there must be a clear and unmistakable disclaimer.").

Plaintiff finally argues that Figure 8 of the '368 Patent (reproduced below) supports its construction. (ECF No. 56 at PageID 2297.)

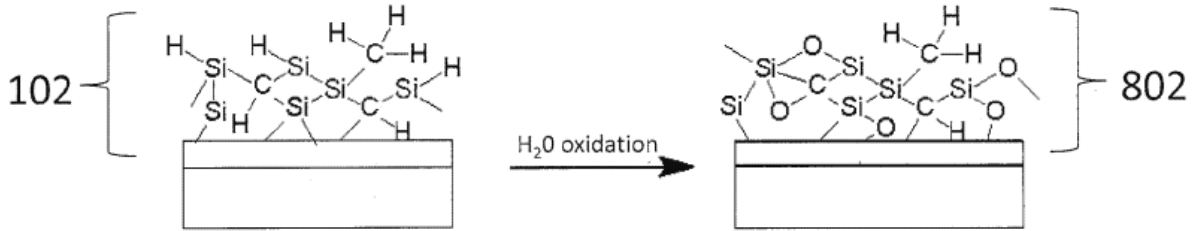


FIG - 8

Figure 8 of the '368 Patent “discloses an embodiment in which a layer 102 of amorphous carbosilane is oxidized to form an oxidized layer 802 of amorphous carboxysilane.” (U.S. Patent No. 9,777,368 col. 3 l. 46-51.)

However, like Plaintiff’s argument on Mattzela, Figure 8 of the '368 Patent is not “clear evidence” to overcome the “presumption . . . that claim terms should be given their ‘ordinary and customary meaning.’” Aventis Pharms. Inc. v. Amino Chemicals Ltd., 715 F.3d 1363, 1375 (Fed. Cir. 2013) (quoting Vitronics, 90 F.3d at 1582). While the '368 Patent mentions carboxysilane and references a chemical structure similar to Plaintiff’s construction (see U.S. Patent No. 9,777,368 fig. 8; ECF No. 62 at PageID 2715), there is no clear definition as to what carboxysilane entails. Further, the '020 Patent makes no mention of the '368 Patent anywhere in its specification. Thus, “there was no clear intent by [Plaintiff] to redefine [carboxysilane] or otherwise disclaim another meaning.” 3G Licensing, S.A. v. Honeywell Int’l Inc., No. 2023-1137, 2024 WL 3594593, at \*4 (Fed. Cir. July 31, 2024); see also Merck & Co. v. Teva Pharms. USA, Inc., 395 F.3d 1364, 1370 (Fed. Cir. 2005) (“When a patentee acts as his own lexicographer in redefining the meaning of particular claim terms away from their ordinary meaning, he must clearly express that intent in the written description.”).

Thus, because there is no “explicit construction of the term [carboxysilane] in the claims, specification, or prosecution history, we apply the ‘ordinary and customary’ definition to the claim term.” Aventis Pharms., 715 F.3d at 1377. Defendant’s construction controls.

### 3. unable to be concurrently coated through line-of-sight techniques

Claim Term No.	Term	SilcoTek’s Proposed Construction	Waters’ Proposed Construction	Final Construction
3	unable to be concurrently coated through line-of-sight techniques	plain and ordinary meaning	cannot be simultaneously coated through line-of-sight techniques  Alternatively, lacks enablement support under 35 U.S.C. § 112(a)	plain and ordinary meaning

The Parties dispute the meaning of the phrase “unable to be concurrently coated through line-of-sight techniques” as it appears in claim 2 of the ’020 Patent. (ECF No. 56-1 at PageID 2326.) The claim covers variations of the described liquid chromatography system where “the amorphous coating is positioned on regions of the liquid chromatography component that are unable to be concurrently coated through line-of-sight techniques.” (Id.)

The Court begins its analysis by trying to give “words of a claim their ordinary and customary meaning.” Phillips, 415 F.3d at 1312. However, “[t]he customary meaning of a claim term is not determined in a vacuum and should be harmonized, to the extent possible, with the intrinsic record, as understood within the technological field of the invention.” Lexion Med., 641 F.3d at 1356. The intrinsic record consists of “the patent itself, including the claims, the specification and, . . . the prosecution history.” Optical Disc Corp. v. Del Mar Avionics, 208 F.3d 1324, 1334 (Fed. Cir. 2000). And while the intrinsic record “may shed contextual light on the plain and ordinary meaning, . . . [it] cannot be used to narrow a claim term to deviate from the

plain and ordinary meaning unless the inventor acted as his own lexicographer or intentionally disclaimed or disavowed claim scope.” Aventis Pharms., 715 F.3d at 1373 (citations omitted).

Plaintiff argues that nothing in the intrinsic record disavows this term’s plain and ordinary meaning. (ECF No. 56 at PageID 2302.) It further argues that in contrast, Defendant’s proposal to substitute “concurrently” for “simultaneously” narrows the scope because courts have found the term “simultaneously” more limiting. (ECF No. 56 at PageID 2302-03 (citing Spherix Inc. v. Vtech Telecomms. Ltd., No. 3:13-cv-3494-M, 2015 WL 9311489, at \*13 (N.D. Tex. Mar. 19, 2015); Ocean Semiconductor LLC v. Huawei Device USA, Inc., No. 4:20-CV-00991-ALM, 2022 WL 389916, at \*21 (E.D. Tex. Feb. 8, 2022)).)

Defendant argues that Plaintiff has not explained what this term “actually means or requires as a claim limitation[.]” (ECF No. 60 at PageID 2661.) It argues that Plaintiff’s citations to show that “simultaneously” is more limiting than “concurrently” are to inapposite cases that do not concern CVD. (Id. at PageID 2662, n. 6 (citing Spherix, 2015 WL 9311489, at \*8; Ocean Semiconductor, 2022 WL 389916, at \*2).)

Defendant’s only non-enablement argument is that Plaintiff has failed to identify how a POSITA would interpret the claim term. (ECF No. 60 at PageID 2661.) However, Plaintiff does not need to do so. If a term’s plain and ordinary meaning applies, a court generally need not further construe it. See Humanscale Corp. v. CompX Intern. Inc., 2010 WL 3222411, \*4 (E.D. Va. 2010) (citing U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997)). Here, Defendant argues that “simultaneously” is synonymous with “concurrently.” (See ECF No. 60 at PageID 2662, n.6.) Waters appears to concede that the plain and ordinary meaning of the word “concurrently” applies, but argues the Court still needs to articulate this meaning. It does not.

Thus, the plain and ordinary meaning of the term applies.

**4. the liquid chromatography component of claim 1**

<b>Claim Term No.</b>	<b>Term</b>	<b>SilcoTek's Proposed Construction</b>	<b>Waters' Proposed Construction</b>	<b>Final Construction</b>
4	the liquid chromatography component of claim 1 (of the '020 Patent)	plain and ordinary meaning	invalid under 35 U.S.C. §112(d) as a dependent claim broader in scope than independent claim 1	plain and ordinary meaning

The Parties dispute the meaning of “[t]he liquid chromatography component of claim 1[.]” the complete Claim 19 of the ‘020 Patent. (ECF No. 56-1 at PageID 2326.) Because Defendant’s only proposed construction involves a lack of enablement, the Court only looks to see if the plain and ordinary meaning of the term is supported by the intrinsic record. See supra note 2; Lexion Med., 641 F.3d at 1356.

Here, a POSITA would understand to what the claim term was referring, and the specification did not “define, limit, or disavow the plain and ordinary meaning of the term.” (ECF No. 56 at PageID 2303.) Thus, the plain and ordinary meaning applies. Abbott Lab’ys, 334 F.3d at 1355 (finding that where the specification did not define the claim term, ordinary meaning applied).

**5. coated metallic fluid-contacting element**

<b>Claim Term No.</b>	<b>Term</b>	<b>SilcoTek's Proposed Construction</b>	<b>Waters' Proposed Construction</b>	<b>Final Construction</b>
5	coated metallic fluid-contacting element	plain and ordinary meaning	an element of a liquid chromatography system having a coating and a metallic substrate on the coating, where the metallic substrate contacts fluid passing through the element	plain and ordinary meaning



The Parties dispute the meaning of the term “coated metallic fluid-contacting element” as it appears in claims 1, 2, and 9 the ’986 Patent. (ECF No. 56-2 at PageID 2335.) This element is part of a “liquid chromatography system” used in Claim 1’s “liquid chromatography technique[.]” (Id.)

As discussed above, the claims themselves, and the “context in which a term is used in the asserted claim[.]” are the most substantial piece of evidence as to how to construe a term. Phillips, 415 F.3d at 1314. The claims, however, must “be read in view of the specification, of which they are a part.” Id. at 1315. Courts must take care neither “to import limitations into the claims from the specification,” nor to allow “the claims to enlarge what is patented beyond what the inventor has described as the invention.” Abbott, 566 F.3d at 1288. When the plain and ordinary meaning of a term is apparent from the claim language, it applies except “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” Thorner, 669 F.3d 1362 at 1365 (citing Vitronics, 90 F.3d at 1580).

Defendant’s construction largely seeks to narrow the construction of the term “coated metallic fluid-contacting element” based on a disclosed embodiment. (ECF No. 56 at PageID 2306.) The only relevant embodiment disclosed in the ’986 Patent is Figure 2, which shows the coating exterior to the metal which touches the particles through which the fluid passes. (ECF No. 54 at PageID 445 (citing ECF No. 55-1 at PageID 481-82, 714-15).) Because this is the only disclosed embodiment, Waters argues this reflects how the term should be construed; otherwise, the claim leaves ambiguous where the coating is in relation to the metal-fluid contacting element. (ECF No. 54 at PageID 446, ECF No. 54 at PageID 445.)

However, “[l]imiting claims from the specification is generally not permitted absent a clear disclosure that the patentee intended the claims to be limited as shown.” MBO Lab'ys, Inc. v. Becton, Dickinson & Co., 474 F.3d 1323, 1334 (Fed. Cir. 2007) (citation omitted). Here, the '986 Patent's specifications do not suggest that the location of the coating must match the disclosed embodiment or avoid some other configuration. Further, Plaintiff's expert states that a POSITA would recognize that a major benefit of the invention is the ability to use a bioinert coating to reduce incompatibility with metal surfaces in liquid chromatography systems (ECF No. 56-3 at Page ID 2367) and would therefore understand that the coating could be on the interior surface. (ECF No. 62 at PageID 2730.)

Because there is no clear disclosure by the patentee and a POSITA could understand that coating may be on the interior surface, plain and ordinary meaning applies.

#### 6. fluid

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction	Final Construction
6	fluid	plain and ordinary meaning	not a substance used in a liquid chromatography technique having at least 3 distinct components: (1) a protein-containing analyte, (2) a chelating agent, and (3) an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate, and deoxynucleotide monophosphate	plain and ordinary meaning

The Parties dispute the construction of the term “fluid” as it appears in claims 1 and 11 of the '986 Patent. In the “liquid chromatography technique” covered by Claim 1:

the fluid has a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone [PEEK], and the fluid has a chelating agent incompatible with the one or both of the titanium or the [PEEK]... and wherein the fluid includes an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate, and deoxynucleotide monophosphate.

(ECF No. 56-2 at PageID 2335.)

“Where a claim lists elements separately, ‘the clear implication of the claim language’ is that those elements are ‘distinct component[s]’ of the patented invention.” Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (citations omitted). Here, the “fluid” at issue has three clear components: (1) “a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone [PEEK]”; (2) “a chelating agent incompatible with the one or both of the titanium or the [PEEK]”; and (3) “an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate, and deoxynucleotide monophosphate.” (ECF No. 56-2 at PageID 2335.) While Defendant wishes to “simply clarif[y] the term’s] meaning,” (ECF No. 60 at PageID 2667), its arguments conflate construction of a claim with construction of a single term within the claim. To prove its literal infringement argument, Plaintiff will have to show that the fluid meets each of the three elements. See Becton, 616 F.3d at 1253. However, it does not mean that in construing the claim, each element of must be present in the definition of “fluid.” Indeed, the “limitation would be unnecessary” if a POSITA would understand that the fluid “inherently” contained those elements. Phillips, 415 F.3d at 1325. Because the Court will not read the claim limitation into the construction of “fluid,” the plain and ordinary meaning of the term applies.

## 7. Protein

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction	Final Construction
7	Protein	plain and ordinary meaning	any of a class of high-molecular-weight polymer compounds composed of a variety of $\alpha$ -amino acids joined by peptide linkages	plain and ordinary meaning

The Parties dispute the construction of the term “protein.” The fluid in Claim 1 of the '986 Patent “has a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone [PEEK.]” (ECF No. 56-2 at PageID 2335 (emphasis added).)

Defendant's argument centers around the “needs of the jury, who likely will not know what a ‘protein’ is in the liquid chromatography context.” (ECF No. 60 at PageID 2668.) However, claims are required to be construed as understood by a POSITA at the time of the invention. O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351, 1360 (Fed. Cir. 2008). Indeed, “[c]laim construction is done from the perspective of a [POSITA] in the context of the intrinsic record; what the jury may or may not eventually understand has nothing to do with it.” JBS Hair, Inc. v. SLI Prod. Corp., No. CV 22-1576 (SRC), 2024 WL 195257, at \*3 (D.N.J. Jan. 18, 2024). Because a POSITA would know what the term meant at the time of the invention (ECF No. 56 at PageID 2309), the term “protein” is construed to have its plain and ordinary meaning.<sup>4</sup>

<sup>4</sup> If it becomes necessary to help the jury's understanding of the term at trial, the Court invites either party to submit a motion in limine at that time. See, e.g., Wyeth v. Abbott Lab'ys, No. CIV.A. 09-4850 JAP, 2011 WL 5873373, at \*10 (D.N.J. Nov. 22, 2011) (inviting “any party that believed changes were necessary to help with a jury's understanding of a claim to raise that issue in a motion in limine at the time of trial.”).

**8. analyte**

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction	Final Construction
8	analyte	plain and ordinary meaning	chemical substance that is being analyzed, detected, or measured	plain and ordinary meaning

The Parties dispute the construction of the term “analyte.” The fluid in Claim 1 of the ’986 Patent “has a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone, and...includes an analyte selected from the group consisting of tetracycline, N-hydroxypyridine-2-on, adenosine triphosphate, and deoxynucleotide monophosphate.” (ECF No. 56-2 at PageID 2335.)

Defendant’s argument as to “analyte” is the same as it’s argument for “protein.” (See supra Section III.B.7.) For the same reasons as the construction of “protein,” the plain and ordinary meaning of “analyte” applies. (Id.)

**9. chelating agent**

Claim Term No.	Term	SilcoTek's Proposed Construction	Waters' Proposed Construction	Final Construction
9	chelating agent	plain and ordinary meaning	a chemical substance that binds to metal ions in the fluid flow-path to improve the analysis, detection, or measurement of metal-sensitive analytes	plain and ordinary meaning

The Parties dispute the construction of the term “chelating agent.” The fluid in Claim 1 of the ’986 Patent “has a chelating agent incompatible with the one or both of the titanium or the polyether ether ketone [PEEK.]” (ECF No. 56-2 at PageID 2335 (emphasis added).)

As with “protein” and “analyte,” Waters seeks to construe “chelating agent” to help a jury understand the term, not to exclude a substance that would otherwise be considered a chelating agent from the scope of the ’986 Patent. (See supra Sections III.B.7, III.B.8.) For the same reasons as the construction of “protein,” the plain and ordinary meaning of “analyte” applies. (Supra Section III.B.8.)

**10. incompatible with one or both of titanium and polyether ether ketone<sup>5</sup>**

<b>Claim Term No.</b>	<b>Term</b>	<b>SilcoTek’s Proposed Construction</b>	<b>Waters’ Proposed Construction</b>	<b>Final Construction</b>
10	incompatible with one or both of titanium and polyether ether ketone	Under certain conditions permits operation producing usable, but less than ideal, performance with one or both of titanium and poly ether ketone	a protein-containing analyte/chelating agent where the negative consequences of using the protein-containing analyte/chelating agent with either titanium or polyether ether ketone are intolerable to a user	such that the negative consequences of its use with either titanium or polyether ether ketone are intolerable to a user

The Parties dispute the construction of the term “incompatible with one or both of titanium and polyether ether ketone [PEEK]” as it appears in Claim 1 of the ’986 Patent. The fluid in Claim 1 must have “a protein-containing analyte incompatible with one or both of titanium and polyether ether ketone [PEEK].” (ECF No. 56-2 at PageID 2335.) The fluid’s chelating agent must also be “incompatible with the one or both of the titanium or the polyether ether ketone [PEEK].” (Id.)

To support its proposed construction, Plaintiff points to a portion of the specification which states that the “embodiments of the present disclosure”: (1) “permit[] operations with fluids incompatible with titanium under certain conditions,” (’986 Patent, col. 2, l. 66-67) and (2)

<sup>5</sup> Plaintiff initially argued the term should be given its plain and ordinary meaning (ECF No. 56 at PageID 2370), while Defendant’s proposed construction substituted “incompatible” for “not capable of being used.” (ECF No. 54 at PageID 450.) After the Markman hearing, the Court found both Parties’ original constructions “insufficient” and permitted them to submit new proposed constructions, which are reflected in the table. (ECF No. 88.)

“permit[] operation with fluids incompatible with polyether ether ketone.” (*Id.* at col. 3 l. 3-4.) Plaintiff points to this portion to support its construction of “under certain conditions permits operation . . .” (ECF No. 91 at PageID 3570.) However, the phrase “incompatible with titanium” or “incompatible with polyether ether ketone” modifies “fluids” as a relative clause; it does not involve operation “under certain conditions.” In contrast, Defendant’s construction reflects the balancing of “negative consequences” that Plaintiff admits is “built into the term incompatibility.” (ECF No. 89 at PageID 3496.) Defendant’s construction also reflects what Plaintiff identified as the fundamental question: whether the level of performance is “tolerable or not depending on how [the POSITA is] ...using this technique.” (*Id.* at PageID 3507.) Defendant’s construction is also supported by the intrinsic record, as its construction is more in line with the plain and ordinary meaning of the term. (ECF No. 91 at PageID 3570.) The Court thus finds that a modified version of Defendant’s construction will apply.

Although Defendant’s construction is largely appropriate, it changes the term “incompatible with one or both of titanium and polyether ether ketone” from an adjective to the subject of said adjective. (*See* ECF No. 90 at PageID 3566.) The term’s construction should not begin with “a protein-containing analyte/chelating agent” when the ’986 Patent uses the term itself to describe a “protein-containing analyte” and a “chelating agent[.]” (ECF No. 56-2 at PageID 2335; ECF No. 90 at PageID 3566.) Omitting any reference to such analytes and chelating agents from the proposed construction rectifies this issue.

The Court therefore construes “incompatible with one or both of titanium and polyether ether ketone” as “such that the negative consequences of its use with either titanium or polyether ether ketone are intolerable to a user.”

**IV. CONCLUSION AND SUMMARY OF CONSTRUCTIONS**

For the reasons given above, the Court adopts the following constructions for each term:

<b>Claim Term No.</b>	<b>Term</b>	<b>Court's Construction</b>
1	amorphous coating having a base layer and a surface layer	plain and ordinary meaning
2	carboxysilane	a chemical with the following structure: $\begin{array}{c} \text{R} \quad \text{O} \\   \quad    \\ \text{R} - \text{Si} - \text{C} - \text{OH} \\   \\ \text{R} \end{array}$
3	unable to be concurrently coated through line-of-sight techniques	plain and ordinary meaning
4	The liquid chromatography component of claim 1 (of the '020 Patent)	plain and ordinary meaning
5	coated metallic fluid-contacting element	plain and ordinary meaning
6	fluid	plain and ordinary meaning
7	protein	plain and ordinary meaning
8	analyte	plain and ordinary meaning
9	chelating agent	plain and ordinary meaning
10	incompatible with one or both of titanium and polyether ether ketone	such that the negative consequences of its use with either titanium or polyether ether ketone are intolerable to a user

**IT IS SO ORDERED**, this 15th day of November, 2024.

/s/ Jon P. McCalla

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JON P. MCCALLA  
UNITED STATES DISTRICT JUDGE